REMARKS

Claims 1-25, 27, 28, 30, and 31 are pending. The Examiner rejected all claims in an Office Action dated September 20, 2005. Independent claims 1 and 13 have been amended to clarify their meaning. The issues outstanding are:

- Claims 1-7, 12-14, 16-24, 27, and 30-31 are rejected under 35 U.S.C. § 103(a) over Horres, Jr (U.S. Patent No. 5,368,571) in view of Moles, D.R. (U.S. Patent No. 6,406,605)

- Claims 1-10, 12-25 and 27-28 are rejected under 35 U.S.C. § 103(a) over Onishi et al. (U.S. Patent No. 5,547,472) in view of Moles.

- Claims 8-10, 15, 25, and 28 are rejected under 35 U.S.C. § 103(a) over Horres in view of Onishi and Moles.

- Claim 11 is rejected under 35 U.S.C. § 103(a) over Horres in view of Swatek (U.S. Patent No. 6,015,266) and Moles.

- Claim 11 is rejected under 35 U.S.C. § 103(a) over Onishi in view of Swatek and Moles.

Applicant contests all rejections and requests they be withdrawn.

I. Claims 1-7, 12-14, 16-24, 27, and 30-31 are rejected under 35 U.S.C. § 103(a) over Horres in view of Moles.

The Examiner cites element **30** in Horres for the intelligent polymer plug limitation in the pending claims. The Examiner is in error. Horres discloses two embodiments of element **30**. One is an electrically galvanizable / eroding metal plug which irreversibly dissolves upon electrification. Column 9, lines 44-47; Column 10, lines 3-10. The second is a electrically reactive membrane that switches from hydrophobic (blocking) to hydrophilic (permissive). Column 12, line 59 to Column 13, line 13; Column 14, lines 26-45. Therefore, Horres does not disclose a polymeric plug as claimed because element **30** is not made of a polymer that functions by changing volume. Moles does not supply this missing element. To establish

prima facie obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. MPEP 2143.03; *In re Royka*, 490 F.2d 981 (CCPA 1974).

The Examiner also cites Horres elements **27** and **30**, as shown in FIG. 3, as defining a microchannel and microchamber. Applicant contests that there is "a microchannel and a microchamber" defined by the cited elements and requests the Examiner explain how the cited elements form these structure.

In view of these missing elements in the cited prior art, Applicants request that the rejection be withdrawn.

II. Claims 1-10 and 12-25 and 27-28 are rejected under 35 U.S.C. § 103(a) over Onishi in view of Moles. (This section is in response to Office Action paragraphs 5 and 8.)

The Onishi patent teaches a stimulus responsive polymer attached to the pores of a catheter or balloon catheter. Onishi does not teach or suggest a "micro channel structure defining a liquid transportation system on a plate." Onishi does not disclose a channel and a chamber in the plate. Moles does not supply this missing element. To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. MPEP 2143.03; *In re Royka*, 490 F.2d 981 (CCPA 1974). In view of this missing element in the cited prior art, Applicants request that the rejection be withdrawn.

The Examiner acknowledged Onishi lacks a "micro channel structure defining a liquid transportation system on a plate." Office Action 9/20/05, pg. 6, para. 8. ("Onishi lacks a structure on a plate."). The Examiner defends the rejection, despite this missing element in the prior art, because it would have been an obvious "design choice" to "make the structure a plate." Citing *In re Dailey*, 149 USPQ 47 (CCPA 1966). *In re Dailey* compared two otherwise indistinguishable baby formula bottles in an obviousness determination. The limitations at issue were the shapes of the ends of the bottles being "a portion of a sphere less than a hemisphere" with a dependent limitation where the central angle of those spherical portions was about 80 degrees. *Id.* The Examiner's reliance on this case in the present office action goes beyond the holding of the case. The catheter disclosed by Onishi is not remotely similar in shape or structure to a "micro channel structure defining a liquid transportation

system on a plate." The Examiner's argument would make any plastic item anticipatory to all others because plastic can be molded into any shape. In view of this incorrect legal analysis, Applicants request that the rejection be withdrawn.

The Onishi reference is also objected to as nonanalogous art. Onishi discloses a selectively permeable catheter. The present invention relates to a method of controlling the flow of liquids on a "micro channel structure defining a liquid transportation system on a plate." "In order to rely on a reference as a basis for rejection of an applicant's invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned." *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992); MPEP 2141.01(a)I. Onishi is not in the same "field of endeavor." Applicant's methods claims relate to microfluidic devices and not medical catheters useful for delivering anti-stenosis drugs during angioplasty. Onishi is therefore not "reasonably pertinent" to the instant application and Applicants request the Examiner withdraw it.

III. Claims 8-10, 15, 25, and 28 are rejected under 35 U.S.C. § 103(a) over Horres in view of Onishi and Moles.

This rejection is premised on Horres having an intelligent polymeric plug element: "It would have been obvious at the time the invention was made to make the polymer of Horres heat responsive." As discussed above, Horres discloses either an irreversible dissolving plug element or a membrane which becomes hydrophobic or hydrophilic upon electrification. Neither is a volume changing polymer. Thus, the Examiner's argument is fatally flawed and there is no *prima facie* case of obviousness established. Applicants request the Examiner withdraw this rejection.

IV. Claim 11 is rejected under 35 U.S.C. § 103(a) over Horres in view of Swatek (U.S. Patent No. 6,015,266) and Moles.

This rejection is premised on Horres having an intelligent polymeric plug element: "It would have been obvious...at the time the invention was made to make the polymer of Horres magnetically responsive...." As discussed above, Horres discloses either an

irreversible dissolving plug element or a membrane which becomes hydrophobic or hydrophilic upon electrification. Neither is a volume changing polymer. Thus, the Examiner's argument is fatally flawed and there is no *prima facie* obviousness case established. Applicants request the Examiner withdraw this rejection.

V. Claim 11 is rejected under 35 U.S.C. § 103(a) over Onishi in view of Swatek and Moles.

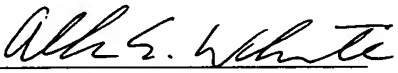
As discussed above, Onishi does not teach or suggest a "micro channel structure defining a liquid transportation system on a plate." For the same reasons as stated under section II, Applicants request the Examiner withdraw this rejection.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

Applicant has enclosed request and payment for one (1) month extension. Applicant believes no other fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 06-2375, under Order No. HO-P02352US0 from which the undersigned is authorized to draw.

Dated: 1/18/06

Respectfully submitted,

By 

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